MrBeast Senior HRIS Engineer Take-Home Project

Overview

Welcome! This take-home project is designed to simulate the technical challenges you'll face as a Senior HRIS Engineer at MrBeast. You'll work with mock HR data, build integrations, transform data, and visualize insights—mirroring the real-world responsibilities of this role.

Project Scenario

You are simulating the integration of data from two HR systems: Recruiting and Payroll. Your goal is to build a pipeline that extracts, transforms, and loads this data into a centralized SQL database, then creates a REST API and visualizes insights for the People Ops and Leadership teams.

Provided Files

You have been provided with a CSV file with three worksheets: Employees, Applicants, employment type

- 📗 HRIS TAKE HOME PROJECT_DATA

These simulate exports from separate HR systems. The data may include small inconsistencies to reflect real-world conditions.

Your Tasks

1. Load the Data into a Local SQL Database

- Choose any SQL database (PostgreSQL or SQLite preferred).
- Use a preferred script to load each sheet as a separate table.
- Normalize the schema and apply appropriate data types.

2. Data Pipeline & Transformation (DBT/SQL)

- Use DBT or SQL to:
    - Clean and standardize the data (e.g., date formats, missing values).
    - Create a view or model to calculate "Time-to-Hire"

3. Build a REST API to Serve Cleaned Data

- Using the language and framework of your choice
- Create at least **two endpoints**, for example:
    - GET /hiring-metrics — returns average time-to-hire by department
    - GET /applicants/status-summary — returns applicant counts by status
- Ensure endpoints:
    - Return data in clean, paginated JSON
    - Follow REST conventions
    - Handle errors appropriately (e.g., 404s, 500s)

4. Automation (Cron)

- Schedule a daily run at 2 AM using a cron expression and/or shell script.

5. Data Visualization

- Create static charts or a lightweight dashboard that displays:
    - Count of applicants by status (e.g., hired, rejected)
    - Average time-to-hire by department
    - Any additional metrics you believe a CHRO or CPO would find valuable

Use any tool you're comfortable with: Python (Plotly, Matplotlib), Tableau, Metabase, etc.

6. Documentation

- Write a clear README that covers:
    - Step-by-step setup instructions
    - Design decisions (e.g., schema structure, transformation logic)
    - Any assumptions or known limitations
    - Your thought process on what metrics are useful to leadership

---

Submission Instructions

- Upload your work to a GitHub repository that includes:
    - All source code (API, data loading, SQL/DBT, visualizations)
    - Your README
    - Exported dashboard or charts (if applicable).
    - Share the repository with Nagesh1011, Bymc1978, TuxGamer, cardonal96
- Do not include the original provided data in your submission.

Email Byronm@mrbeastyoutube.com, nagesh@mrbeastyoutube.com and Tux@mrbeastyoutube.com once completed. Include any links and attachments relevant to your project.

Evaluation Criteria

Area	What We're Looking For
API Design	RESTful standards, error handling, scalability
Code	Readability, reproducibility, structure
DBT/SQL	Data model clarity, schema design, transformation quality
Automation	Cron setup, logging, reliability
Visualization	Relevant, clear, insightful metrics for business stakeholders
Documentation	Reproducibility, clarity, assumptions explained

Bonus Points

- Add unit tests for API or transformation logic
- Implement basic auth for your APIs
- Containerize your solution using Docker.
- Add basic alerting (e.g., email/Slack on pipeline failure).

Notes

- Focus on clean, maintainable code and realistic data handling.
- Feel free to go beyond what's asked — add metrics, improve data quality, or structure your API for real-world use.
  - Your approach matters as much as your output.
- If you hit a blocker, please reach out to byronm@mrbeastyoutube.com.
  - Since this is a senior role, we encourage you to proceed using your best judgment and note any open questions or assumptions in your README.

Thank you for your interest in MrBeast's People Tech team. We look forward to reviewing your work!